

IN THE CLAIMS:

Listing of Claims:

This listing of claims will replace all prior versions, and listing, of claims in the application.

1. (Currently amended) A buoyant platform apparatus comprising a wind speed measurement device, ~~characterised in that~~ wherein the wind speed measurement device comprises a laser radar (lidar) arranged to make wind velocity measurements at one or more remote probe volumes of known position relative to said buoyant platform.

2. (Original) An apparatus according to claim 1 wherein the wind speed measurement device is arranged to acquire wind velocity measurements from remote probe volumes at a plurality of positions such that a true wind velocity vector can be determined.

3. (Currently amended) An apparatus according to ~~any preceding~~ claim 1 wherein the lidar further comprises a beam ~~scanning means~~ scanner.

4. (Currently amended) An apparatus according to claim 3 wherein the beam ~~scanning means~~ scanner is arranged to provide a conical scan.

5. (Currently amended) Apparatus according to ~~any preceding~~ claim 1 wherein the wind speed measurement device further ~~comprises comprising a~~ motion ~~sensing means~~ sensor that, in use, monitors motion of the buoyant platform.

6. (Currently amended) An apparatus according to claims 5 wherein the motion ~~sensing means~~ sensor comprises a rotation sensor.

7. (Currently amended) An apparatus according to ~~any one of~~ claims 5 ~~to 6~~ wherein the motion ~~sensing means~~ sensor comprises a roll sensor.

8. (Currently amended) An apparatus according to ~~any one of~~ claims 5 ~~to 7~~ wherein the motion ~~sensing means~~ sensor comprises a heave sensor.

9. (Currently amended) An apparatus according to ~~any one of~~ claims 5 to 8 wherein the motion ~~sensing means~~ sensor comprises a translation sensor.

10. (Currently amended) An apparatus according to ~~any one of~~ claims 5 to 9 wherein a ~~processing means~~ processor is additionally provided to receive the output of the motion ~~sensing means~~ sensor and to calculate the absolute position of the remote probe volume of each wind velocity measurement.

11. (Currently amended) An apparatus according to claim 10 wherein the ~~processing means~~ processor receives the platform velocity measured by the motion ~~sensing means~~ sensor and compensates said wind velocity measurements for relative platform velocity.

12. (Currently amended) An apparatus according to ~~any preceding~~ claim 1 wherein a data storage ~~means are~~ is additionally provided.

13. (Currently amended) An apparatus according to ~~any preceding~~ claim 1 wherein the lidar is bistatic.

14. (Currently amended) An apparatus according to ~~any preceding~~ claim 1 wherein the lidar is optical fibre based.

15. (Currently amended) An apparatus according to ~~any preceding~~ claim 1 wherein the wind speed measurement device is mounted within the buoyant platform apparatus.

16. (Currently amended) An apparatus according to ~~any preceding~~ claim 1 wherein means are provided to clean the optical port through which the radiation transmitted and received by the lidar passes.

17. (Currently amended) An apparatus according to ~~any preceding~~ claim 1 wherein the lidar has a substantially vertical look direction during use.

18. (Currently amended) An apparatus according to ~~any preceding~~ claim 1 wherein the buoyant platform apparatus is a buoy.

19. (Original) A method of determining wind velocity in the vicinity of a buoyant platform characterised by the steps of (i) taking a laser radar (lidar) attached to the buoyant platform and (ii) using the lidar to acquire wind velocity measurements from one or more remote probe volumes of known position relative to the moveable platform.

20. (Currently amended) A method according to claim 19 and further comprising the step of (iii) using a motion sensing means sensor to measure motion of said moveable platform.

21. (Currently amended) A method according to ~~any one of~~ claims 19 ~~to 20~~ and comprising the additional step of (iv) acquiring wind velocity measurements from a plurality of probe volumes of known position relative to the moveable platform

22. (Currently amended) A method according to ~~any one of~~ claims 19 ~~and 21~~ and comprising the additional step of (v) compensating the acquired wind velocity measurements for the relative velocity of the platform.